1849MNRAS...9..156G

# METIS.

## *Ephemeris.** By Mr. Graham.

For Greenwich Mean Midnight.

| 1849. | R.A. h | m | s | N.P.D. ° | ′ | ″ |
|---|---|---|---|---|---|---|
| May 3 | 21 | 55 | 47·51 | 107 | 24 | 25·9 |
| 4 | | 57 | 2·75 | | 20 | 9·9 |
| 5 | | 58 | 17·34 | | 15 | 57·1 |
| 6 | 21 | 59 | 31·25 | | 11 | 47·6 |
| 7 | 22 | 0 | 44·48 | | 7 | 41·6 |
| 8 | | 1 | 57·03 | 107 | 3 | 39·2 |
| 9 | | 3 | 8·87 | 106 | 59 | 40·5 |
| 10 | | 4 | 19·99 | | 55 | 45·8 |
| 11 | | 5 | 30·39 | | 51 | 55·0 |
| 12 | | 6 | 40·05 | | 48 | 8·4 |
| 13 | | 7 | 48·97 | | 44 | 26·0 |
| 14 | | 8 | 57·13 | | 40 | 48·0 |
| 15 | | 10 | 4·51 | | 37 | 14·5 |
| 16 | | 11 | 11·11 | | 33 | 45·7 |
| 17 | | 12 | 16·90 | | 30 | 21·5 |
| 18 | 22 | 13 | 21·89 | 106 | 27 | 2·3 |
| May 19 | 22 | 14 | 26·04 | 106 | 23 | 48·1 |
| 20 | | 15 | 29·36 | | 20 | 39·1 |
| 21 | | 16 | 31·82 | | 17 | 35·4 |
| 22 | | 17 | 33·42 | | 14 | 37·2 |
| 23 | | 18 | 34·14 | | 11 | 44·6 |
| 24 | | 19 | 33·96 | | 8 | 57·6 |
| 25 | | 20 | 32·88 | | 6 | 16·4 |
| 26 | | 21 | 30·89 | | 3 | 41·1 |
| 27 | | 22 | 27·96 | 106 | 1 | 11·8 |
| 28 | | 23 | 24·10 | 105 | 58 | 48·7 |
| 29 | | 24 | 19·28 | | 56 | 31·8 |
| 30 | | 25 | 13·49 | | 54 | 21·3 |
| 31 | | 26 | 6·72 | | 52 | 17·3 |
| June 1 | | 26 | 58·96 | | 50 | 20·0 |
| 2 | 22 | 27 | 50·20 | 105 | 48 | 29·3 |

### Horizontal Parallax.

| | ″ | | ″ | | ″ |
|---|---|---|---|---|---|
| May 3 | 3·36 | May 15 | 3·60 | May 27 | 3·86 |
| 7 | 3·43 | 19 | 3·68 | 31 | 3·96 |
| 11 | 3·51 | 23 | 3·77 | June 3 | 4·07 |

| | Log. Δ | | Log. Δ | | Log. Δ |
|---|---|---|---|---|---|
| May 3 | 0·40649 | May 15 | 0·37759 | May 27 | 0·34643 |
| 7 | 39713 | 19 | 36744 | 31 | 0·33562 |
| 11 | 0·38748 | 23 | 0·35705 | | |

## *Continuation of the Ephemeris of Metis.* By Mr. Graham.

For Greenwich Mean Midnight.

| 1849. | R.A. h | m | s | N.P.D. ° | ′ | ″ |
|---|---|---|---|---|---|---|
| June 3 | 22 | 28 | 40·40 | 105 | 46 | 45·7 |
| 4 | | 29 | 29·59 | | 45 | 8·9 |
| 5 | | 30 | 17·73 | | 43 | 39·3 |
| 6 | | 31 | 4·79 | | 42 | 16·9 |
| 7 | | 31 | 50·77 | | 41 | 1·8 |
| 8 | | 32 | 35·65 | | 39 | 54·3 |
| 9 | | 33 | 19·41 | | 38 | 54·4 |
| 10 | | 34 | 2·03 | | 38 | 2·3 |
| 11 | | 34 | 43·49 | | 37 | 18·1 |
| 12 | 22 | 35 | 23·78 | 105 | 36 | 42·0 |
| June 13 | 22 | 36 | 2·87 | 105 | 36 | 13·9 |
| 14 | | 36 | 40·74 | | 35 | 54·2 |
| 15 | | 37 | 17·37 | | 35 | 42·9 |
| 16 | | 37 | 52·74 | | 35 | 40·1 |
| 17 | | 38 | 26·84 | | 35 | 46·0 |
| 18 | | 38 | 59·64 | | 36 | 0·6 |
| 19 | | 39 | 31·13 | | 36 | 24·1 |
| 20 | | 40 | 1·28 | | 36 | 56·5 |
| 21 | | 40 | 30·08 | | 37 | 38·0 |
| 22 | 22 | 40 | 57·51 | 105 | 38 | 28·5 |

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* An Ephemeris of *Metis* by Dr. Gould was communicated by Professor Schumacher.

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| 1849. | R.A. h m s | N.P.D. ° ′ ″ | 1849. | R.A. h m s | N.P.D. ° ′ ″ |
|---|---|---|---|---|---|
| June 23 | 22 41 23·55 | 105 39 28·3 | July 3 | 22 44 24·40 | 105 57 59·7 |
| 24 | 41 48·20 | 40 37·2 | 4 | 44 34·18 | 106 0 43·1 |
| 25 | 42 11·43 | 41 55·4 | 5 | 44 42·39 | 3 35·9 |
| 26 | 42 33·22 | 43 22·9 | 6 | 44 49·01 | 6 38·3 |
| 27 | 42 53·57 | 44 59·7 | 7 | 44 54·03 | 9 50·2 |
| 28 | 43 12·45 | 46 46·0 | 8 | 44 57·43 | 13 11·5 |
| 29 | 43 29·86 | 48 41·8 | 9 | 44 59·19 | 16 42·5 |
| 30 | 43 45·77 | 50 47·0 | 10 | 44 59·31 | 20 22·9 |
| July 1 | 44 0·17 | 53 1·8 | 11 | 44 57·77 | 24 12·7 |
| 2 | 22 44 13·06 | 105 55 26·0 | 12 | 22 44 54·56 | 106 28 11·8 |

Horizontal Parallax.

| | ″ | | ″ | | ″ |
|---|---|---|---|---|---|
| June 2 | 4·01 | June 18 | 4·45 | July 4 | 4·94 |
| 6 | 4·11 | 22 | 4·57 | 8 | 5·07 |
| 10 | 4·22 | 26 | 4·69 | 12 | 5·20 |
| 14 | 4·33 | 30 | 4·81 | | |

"The *continuation* is from the same elements as the first portion. I have since computed fresh elements, which agree better with the observations; these are subjoined.

Epoch, May 0·0, Greenwich M.T.

| | ° ′ ″ | |
|---|---|---|
| Mean Anomaly ....... | 144 9 44·3 | |
| $\varpi$ ......................... | 71 8 46·8 | Mean Eq. May 0·0. |
| ☊ ......................... | 68 27 46·8 | |
| $i$ ......................... | 5 35 47·1 | |
| $\phi$ ......................... | 7 4 0·5 | |
| Log $a$ ................... | 0·3776655 | |
| $\mu$ ......................... | 962″·7384 | |

The corrections to the ephemeris, according to these elements, are

| 1849. | R.A. s | N.P.D. ′ ″ |
|---|---|---|
| May 1·0 | −15·12 | +1 26·6 |
| July 20·0 | −30·85 | +3 18·2 |

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## HEBE.

Liverpool. Equatoreal. (Mr. Hartnup.)

| 1849. | Greenwich M.T. h m s | R.A. h m s | N.P.D. ° ′ ″ | Compᵈ—Obsᵈ. R.A. s | Compᵈ—Obsᵈ. N.P.D. ″ | Star. B.A.C. |
|---|---|---|---|---|---|---|
| April 26 | 9 13 47·3 | 6 53 50·63 | 70 29 53·2 | +6·27 | −15·8 | 2233–2330 |
| 28 | 8 57 42·1 | 6 56 54·93 | 70 25 46·6 | +6·56 | −11·7 | 2271–2350 |

"Corrected for refraction and parallax, and compared with M. Luther's ephemeris, published in the *Monthly Notices*, Vol. ix. No. 6."

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## *Observations of the Elongations of the Satellites of Saturn, made during the Opposition of* 1848 *with the* 20*-foot Equatoreal.*

By Mr. Lassell.

"The powers generally used were 219, 297, and 366. The elongations were measured in arc of right ascension, and not in the

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